

DATA BASE

The Phase I background research undertaken regarding the Church Road project area suggested the potential for the presence of historic resources, as well as the low to moderate probability of prehistoric archaeological resources. Based on this research, as well as on existing field conditions along the Area of Potential Effect (APE), a multifold field approach to the Phase I and Phase II investigations for the Church Road field survey was taken.

Phase I Reconnaissance Survey

A combination of surface examination and subsurface shovel test pitting were considered necessary to resolve the question of whether or not any historic period or Native American cultural resources were present within the project APE. The majority of the proposed Church Road highway improvements will be undertaken within currently, or recently, cultivated fields, in which surface visibility was sufficient to identify the presence of artifactual material and determine the presence of any scatters and/or concentrations which might indicate *in situ* buried settlement remains and/or cultural activity areas. Accordingly, the study area, as noted below, was systematically marked and surveyed by a crew of three experienced field researchers. Field survey efforts were conducted using a one-inch to 50-ft survey base map of the entire project area.

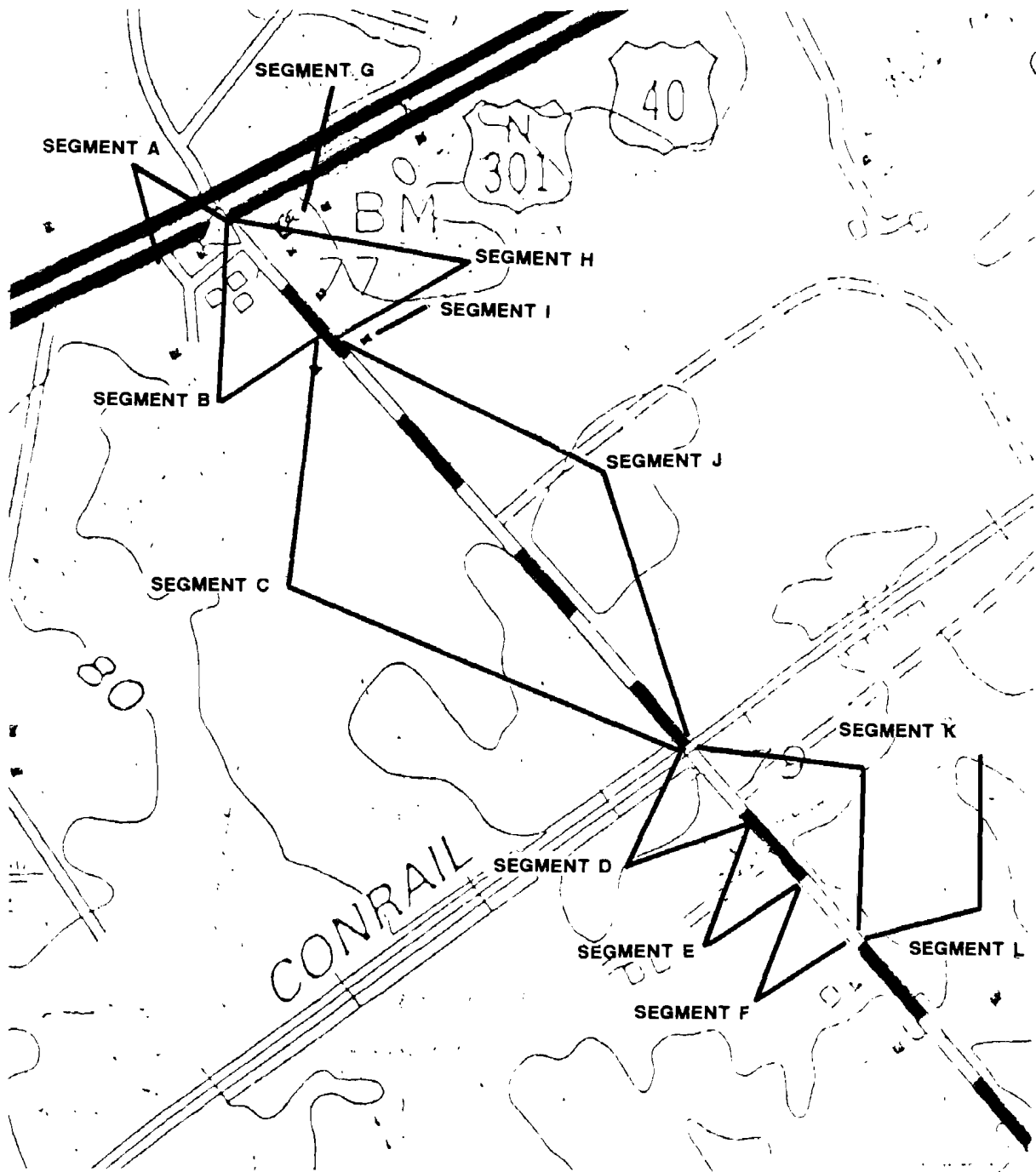
The surface survey was undertaken first, with three field researchers walking along all portions of the right-of-way (ROW) with sufficient surface visibility. Systematic surface collection was undertaken in a linear fashion with surveyors walking at intervals of less than ten ft. The degree of visibility for each section was noted and recorded. During the walk-over, all identified artifacts were marked by flagging. Surface materials associated with actual sites were exact provenienced and collected.

Shovel testing was undertaken within areas in which surface visibility was limited to 40 percent or less. This included lawn areas, roadside drainage ditches and wooded plots. Shovel tests were excavated by natural strata, usually consisting of a plow zone and an undisturbed subsoil stratum. In several segments/areas, however, the strata included a modern fill that overlaid a natural plow zone and/or (A) horizon, overtop of the natural subsoil. Shovel tests were dug by hand and all soil matrices were subjected to sifting through 1/4 inch mesh hardware cloth. Material recovered was bagged in marked plastic bags. Linear segments within the Church Road study area were subjected to surface examination and shovel test pitting (**Figure II-1**).

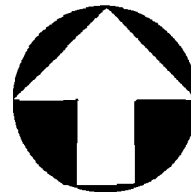
Segment A: Consisting of a proposed turn lane from eastbound U.S. Route 40 onto Church Road, this segment (**Plate II-1**) runs along a shallow drainage ditch adjacent to a white picket fence of a residential property. The segment is approximately 300 ft in length. A total of nine shovel test pits were excavated within Segment A. Of the nine,



PLATE II-1: Segment A, Facing East



SOURCE: USGS ST. GEORGES, DEL. QUADRANGLE, 1953, 1985



MAI PROJECT: D-74/81
CHURCH ROAD PHASE I & II
FIGURE II-1
PHASE I TESTING

#s 1 through 6 exhibited relatively intact profiles with a dark (10YR3/4) silty, sandy loam top zone reaching to depths from 27 to 33 cm below the surface, where they rested on undisturbed silty clay subsoil (7.5YR5/6). The three easternmost of the series contained thick fill levels overlying subsoil.

Segment B: This segment extends south along the west side of Church Road from its intersection with U.S. Route 40, along the side of a small farmstead for a distance of 550 ft. The segment runs along a roadside drainage ditch adjacent to a fence line and has been extensively landscaped. Segment B was subjected to shovel testing, with a total of eight shovel test pits being excavated at 20-meter intervals. Most of the shovel test pits exhibited severely-disturbed profiles.



PLATE II- 2: Segment C, Looking North

Segment D: This segment runs south of the railroad tracks on the west side of Church Road, along a roadside ditch, past several driveways to a residential property, for a distance of approximately 400 ft. Surface examination of this segment revealed that it had been intensively landscaped (**Plate II-3**) and was severely disturbed. It was not subjected to subsurface testing.



PLATE II-3: Segment D, West of Road, Looking South



PLATE II-4: Segment F, Looking South

Segment E: Located south of the railroad tracks and the above-noted residential property, this segment begins at 2550 ft south of U.S. Route 40 and continues for 400 ft. It also had a surface visibility ranging from 40 to 60 percent of the ground surface. Survey consisted of a systematic surface walkover.

Segment F: This area consists of the roadside drainage ditch of several residential properties on the west side of Church Road (**Plate II-4**) running from the cultivated field of Segment E to

the southern extent of the study area over a distance of 300 ft. Examination of the ground surface revealed that heavy landscaping had extensively disturbed the ground.



PLATE II-5: Segment G, Looking North

Segment G: Segment G is a small plot of land (30 by 50 ft) adjacent to Lestardo's Tavern, a commercial property on the southeast corner of the intersection of U.S. Route 40 and Church Road. The area was in lawn (**Plate II-5**) during the survey and was subjected to the excavation of four shovel test pits (77-80). Three of the four contained thick fill levels down to 40 cm and contained only modern material.

Segment H: This segment is located on the east side of Church Road, running from the intersection with U.S. Route 40 for 550 ft to

the corner of a residential property. Surface examination revealed extensive ditching and landscaping (**Plate II-6**).

Segment I: This area is in the lawn of an abandoned ranch style house (**Plates II-7 & II-8**). Documentary research suggested the presence of an historic residence in this general area. It was subjected to the excavation of more than 40 STPs. Although historical documents suggested the presence of a residence in this area, no evidence was found other than sparse twentieth century debris.



PLATE II-6: Segment H, Looking Towards U.S. 40



PLATE II-7: Segment I, Northern Edge



PLATE II-8: Segment I, Rear Yard

Segment J: This 1550 foot linear segment, running from Segment H to the railroad track, included the landscaped roadside of the Leisure School, as well as a former soybean field. Since surface exposure was not sufficient for a controlled walkover, it was surveyed through the excavation of 21 shovel test pits (STPs 23-33 & 81-90) placed at 20-meter intervals. Although most of these STPs exhibited intact soil profiles, three contained fill and truncated subsoil strata.



PLATE II-9: Segment K, Looking North Towards RR Tracks



PLATE II-10: Segment L, Looking East

sediments from an adjacent field. A buried (A) horizon was recorded in a few of the shovel tests ranging in thickness from 17 to 18 cm. These strata may not represent modern plow zone levels.

Segment K: This segment (**Plate II-9**) consisted of a cultivated field running south from the railroad track to a wooded segment at the southern end of the study area. A controlled surface walkover was used to complete the survey of this field.

Segment L: This segment, stretching east from Church Road for a distance of approximately 900 ft, with a width ranging from 20 ft up to 300 ft, was to be the site of a large storm water management pond. Within the woods is a small intermittent stream, including a small branch thereof. The surface visibility in the cultivated field ranged from 40 to 60 percent (**Plate II-10**). In addition to the systematic walkover of the cultivated portions of this area, a total of 36 STPs (91-127) were excavated within the wood lot (**Plate II-11**). The profiles in some of these shovel tests suggested the presence of a buried (A) horizon. The top zone contained dark organic soil (**Plate II-12**) and ranged in depth from 18 to 48 cm, usually resting on subsoil. This strata appears to have been partially created by slope wash and wind-blown deposition of fine

In addition to the STPs, two one-meter by one-meter stratigraphic control units were excavated in Segment L. Test Unit (TU) 1 was placed in the cultivated field near a artifact concentration. Level 1 of this unit reached a depth of 30 cm and consisted of a silty loam (10 YR 4/4) containing a relatively large number of small cobbles. Artifacts found within this top level included lithic flakes and shatter mixed with window glass and small brick fragments. Level 2 was a silty clay (10 YR 6/6) and was culturally sterile. TU 2 was placed in the wood lot at the head of a small stream. Stratum 1, consisting of a silty loam (10 YR 4/3) with no cobbles and was excavated in three arbitrary levels to a depth of 30 cm. A single lithic flake was recovered from the middle of the three arbitrary levels. Stratum 2, sandy loam, consisted of a buried (A) horizon (10 YR 2/2); unmodified rocks, a few flakes and a lithic core were recovered during its excavation. This stratum has an indistinct base and appears to be unplowed. Stratum 3, the subsoil, consisted of sand and pebbles and was water-logged.



PLATE II-11: Segment L, Wooded Testing Area



PLATE II-12: Shovel Test Pit 102

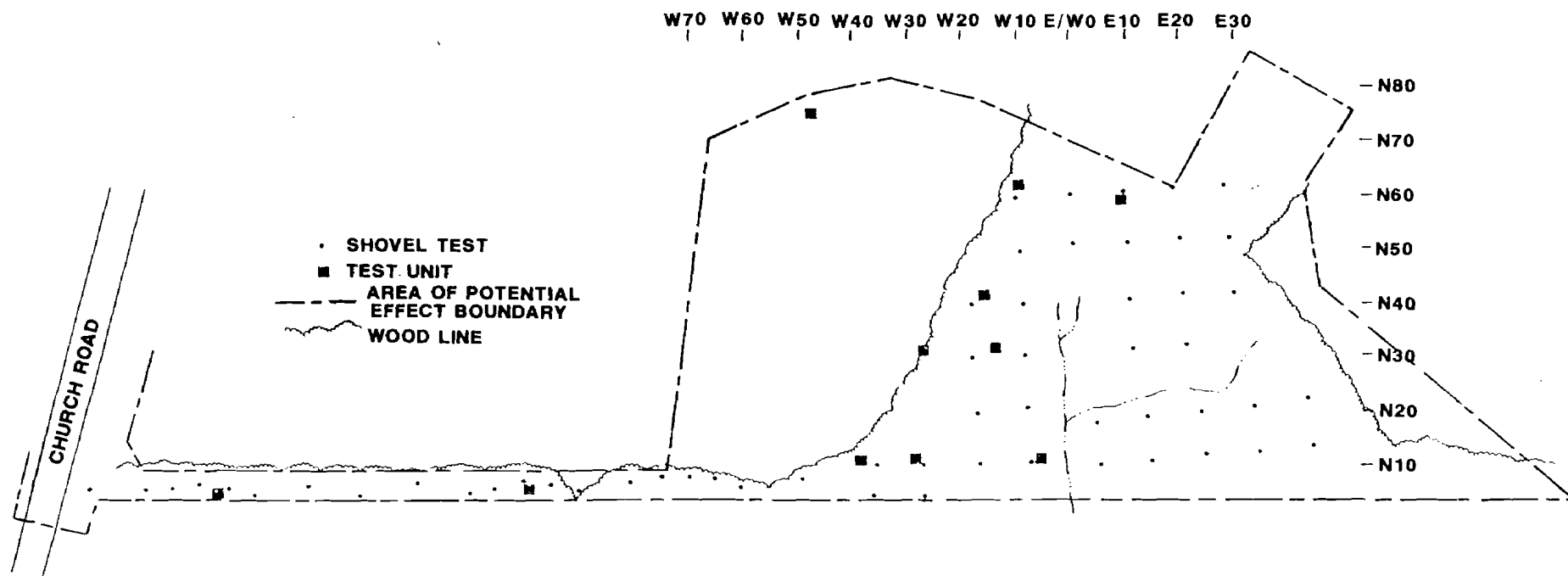
Wynnefield Site (7NC-D-219) Intensive Survey

Phase II testing began with the establishment of a transit-surveyed, ten-meter grid over the whole of the APE, after the open field portions of the APE had been plowed (**Figure II-2**). Following the execution of a controlled surface collection involving the collection of four consecutively numbered quads within each of the ten-meter collection units, additional shovel test pits (STPs) and one-meter test units were excavated in the wooded portions of the APE. Twenty-one additional STPs and nine one-meter units were excavated, which in conjunction with Phase I testing, totaled 57 STPs and 11 TUs.

After completion of the surface collection and hand-excavated shovel test pits and units, a backhoe with a blade attachment was brought in to strip shallow trenches one-meter wide and ranging in length from 10 to 30 meters (**Plate II-13**). The trenches were placed at five-meter intervals in areas with high and low densities of surface artifacts. A total of 16 trenches were excavated, resulting in the horizontal exposure of 340 square meters of surface area, representing a 10.8% sample of the 3,150 square meters of plowed field. Trenches were cleaned by hand using shovels, hoes, and trowels; a number of soil anomalies were investigated. A dozen or so obvious non-cultural features consisting of animal burrows and tree molds were sectioned when encountered and dismissed as their non-cultural origins were confirmed. Seven soil anomalies exhibiting some regularity in their configurations were assigned feature numbers, cross-sectioned, and partially excavated. All hand-excavated soil matrices from features and test units were screened through ¼ inch hardware cloth to insure standardized artifact recovery and comparable data sets. Recordation procedures included the compilation of field notes, the drawing of plan views and profiles, and photo-documentation. Feature sections were lined with plastic and backfilled by hand to prevent the collapse of profiles; the backhoe was used to backfill the open trenches.

Site Stratigraphy

Several different stratigraphic situations were documented at the site. Although conformed at the micro-level, or within the bounds of specific landforms and hydrological conditions noted within the APE, stratigraphy across the site as a whole was not conformed. Three different stratigraphic situations were evidenced by shovel test pit, test unit, and backhoe trench profiles, including:



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FIGURE II-2
 PHASE II TESTING



PLATE II-13 PHASE II TRENCH EXCAVATION

- 1) conventional plow zone subsoil stratigraphy in the open field portions of the APE;
- 2) deeply buried plow zone levels mantled by displaced sediment loads, primarily in the wooded portions of the APE, and;
- 3) buried (A) horizons which appear to be intact and to have been entirely out of reach of historic period agricultural activities, again, within the wooded portions of the APE.

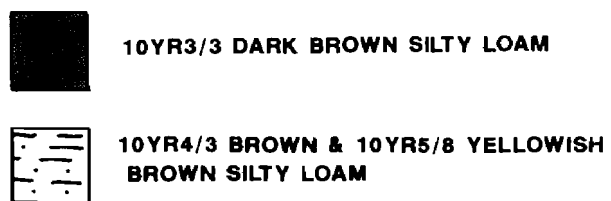
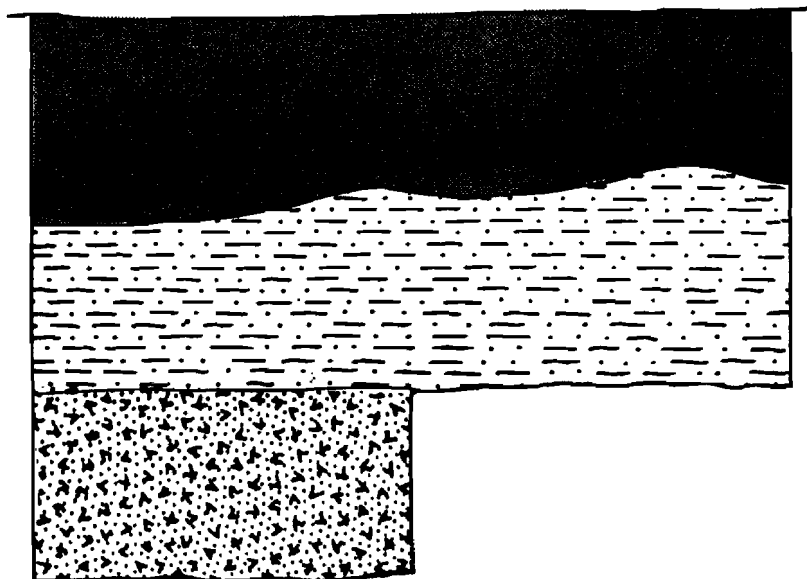
These differing stratigraphic sequences correlate with the local topography, and are largely the product of land-clearing activities and farming practices which led to increased erosion of sediments from the higher positions of the landform around the springhead located to the east of the site, and the accretion of sediments near and within the springhead itself. The primary agents which lead to the shifting of sediment loads include man-induced disturbances such as logging and plowing, and natural agencies which include wind, water, and gravity.

Conventional stratigraphy, consisting of a dark brown silty loam (A) horizon or plow zone level, overlying a reddish brown clayey or sandy clay subsoil, was noted in two portions of the APE, including all of the open field portions of the APE and in the wooded portion of the APE located east of the stream. The stratigraphy, as illustrated by a one-meter unit placed in the open field at grid coordinates N76/W47 (**Figure II-3**), had a 30 cm thick plow zone overlying the undisturbed subsoil level. The boundary at the A/B soil horizon interface was abrupt, and remnant plow scars were noted at the base of the plow zone level. The (A) horizon or plow zone level recorded in STPs 114 through 123 placed east of the drainage, and in the backhoe trenches in the southeast corner of the agricultural field west of the stream, exhibited a thickened (A) horizon or plow zone levels ranging from 35 to 50 cm in thickness. In all cases, the A/B horizon interface was abrupt, indicating truncation.

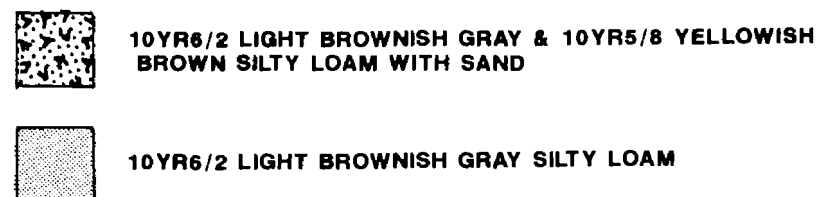
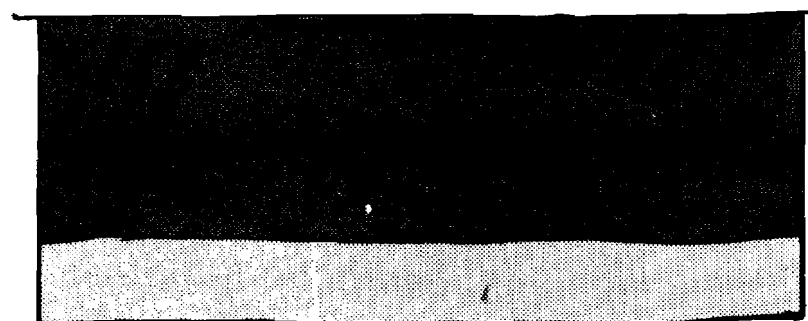
Buried (A) horizons or plow zone levels were encountered in the wooded portions of the APE, located immediately west of and adjacent to the drainage. This type of stratigraphic sequence was clearly illustrated in the profile for the test unit excavated at grid coordinates N31/W17 (**Figure II-3**). Two distinct plow zone levels were noted, each of which was approximately 25 cm thick and comprised of silty loam, overlying reddish-tan clay subsoil. The boundaries between the A/A horizon interface and the A/B interface were abrupt, clearly indicating truncation due to plowing. Buried (A) horizons or portions of (A) horizons that do not appear to have been plowed occurred in two different portions of the APE. The first of these was located at the north end of the stream and is best illustrated by the stratigraphy recorded in the test unit located at grid coordinates N60/E10, and also in three of the shovel test pits (STP 102, 106, and 109) excavated in that same area. The stratigraphy recorded in the unit consisted of a 30 cm thick, dark brown silty loam, which has most likely been plowed. Underlying that level was another (A) horizon comprised of dark brown to black, very sandy loam overlying a heavily-mottled hydric subsoil. The 15 cm thick (A) horizon overlying the subsoil was somewhat gleyed, indicating that this soil was seasonally wet and relatively marginal in terms of occupation potential. The A/B interface was gradational, with a thin 2 to 3 cm thick leached (E) horizon demarking the change between the A/B horizons.

Buried (A) horizons were also noted in three of the test units excavated in the wood line extending from the stream to Church Road. The three units were located at grid coordinates N11/W30, N6/W100, and N15/W156 (**Figure II-4**). The stratigraphy recorded in all three of these units was relatively consistent and is best illustrated by the stratigraphy recorded in Test Unit N11/W30. The profile indicated a humus level 20 cm thick, overlying a dark brown (A) horizon of

TEST UNIT N31/W17



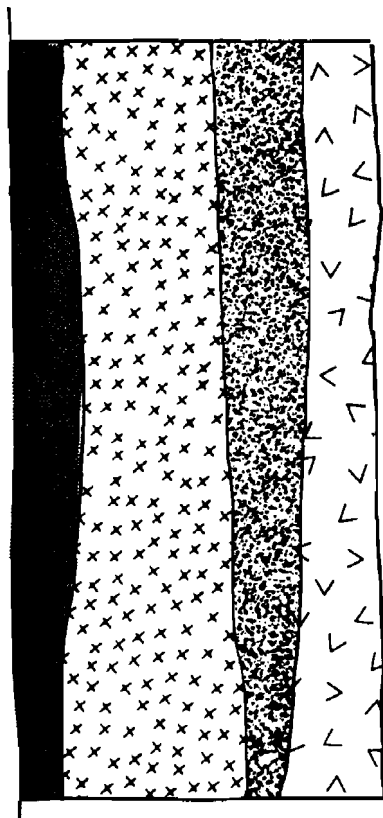
TEST UNIT N76/W47



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**FIGURE II-3
REPRESENTATIVE TEST UNIT PROFILES**

TEST UNIT N6/W100

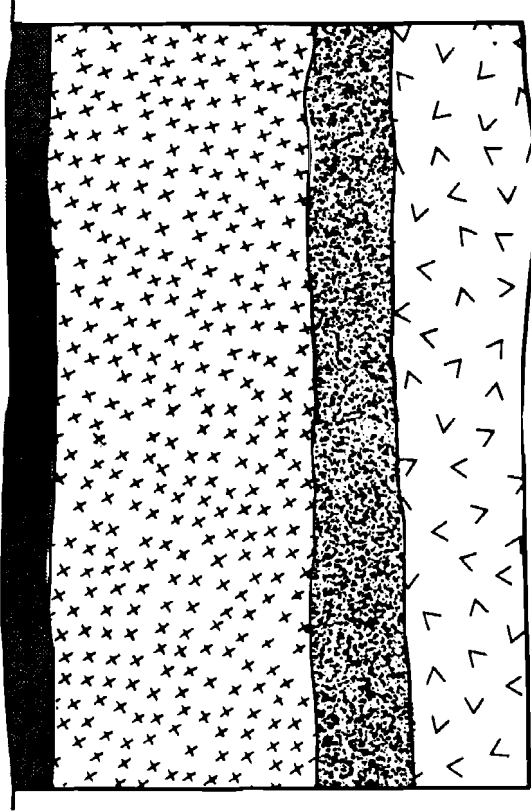


10YR3/3 DARK BROWN SILTY LOAM



10YR4/4 DARK YELLOWISH BROWN SILTY LOAM

TEST UNIT N5/W156



10YR5/3 BROWN SILTY LOAM



10YR6/4 LIGHT YELLOWISH BROWN SILTY LOAM



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FIGURE II-4
REPRESENTATIVE TEST UNIT PROFILES

silty loam 30 cm thick. That (A) horizon or plow zone level was underlain by a second (A) horizon of light brown sandy loam overlying a tan, sandy clay subsoil. The boundary between the (A) horizons was distinct and abrupt, while the boundary between the lower (A) horizon and the underlying subsoil was uneven and indistinct. This lower (A) horizon does not appear to have been plowed.

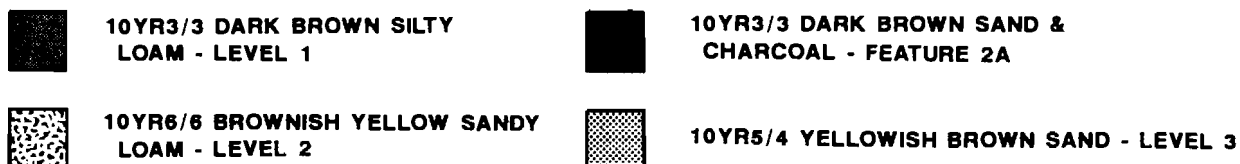
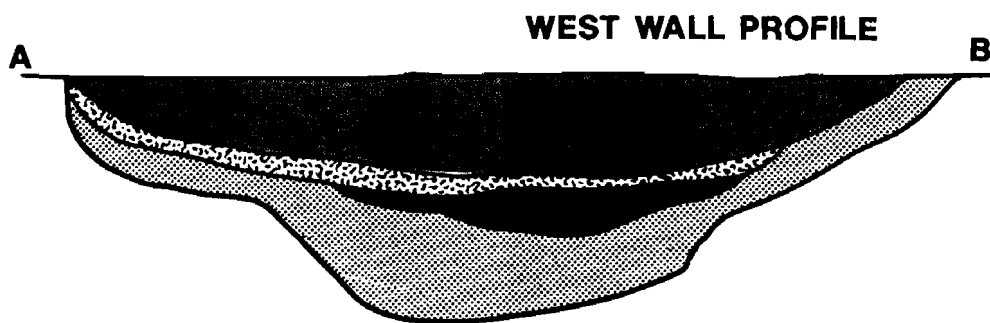
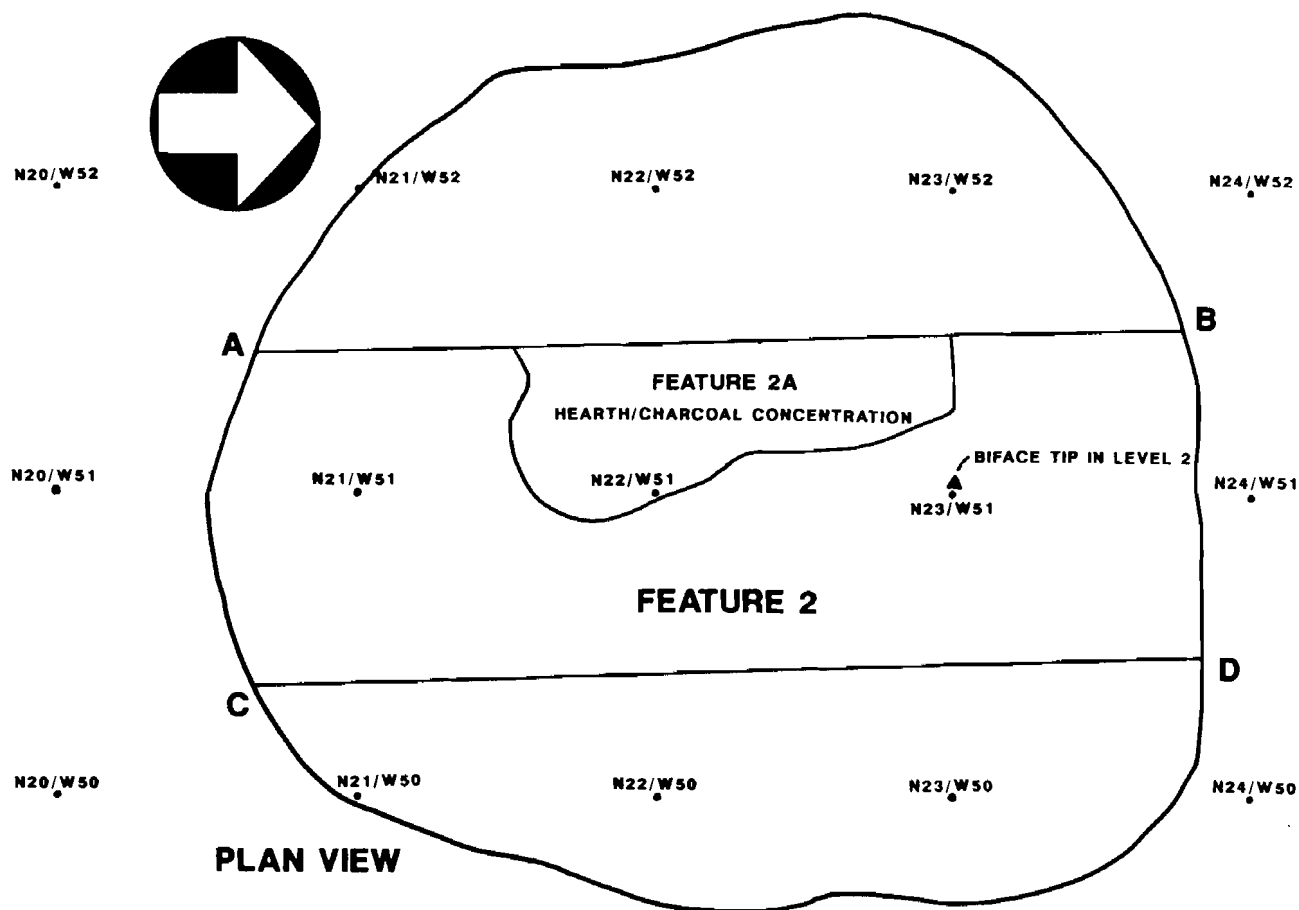
Cultural Features

The features noted in the stripped trenches evidence a variety of land uses. Feature 5 turned out to be the remains of a large tree fall containing a single fragment of cracked jasper. The organic content of the feature was largely leached out, indicating great age, but the evidence for root molds was still visible in the walls and floor of the excavated section.

Features 1 and 4 consisted of more or less rectangular stains, 22 cm to 45 cm wide and 40 to 85 cm long, both of which were 2 to 3 cm deep. Although clearly of man-made origin, the function of neither feature could be ascertained. Tire tracks are one possible explanation, although no evidence of tread tracks was noted. Feature 3 consisted of an area of dark staining and a 60 cm wide trench extending northwest to southeast across Trench 5. Fragments of a terra cotta drain tile were encountered at a depth of 30 cm within Feature 2.

Feature 2 (**Figure II-5; Plate II-14**), which was located at the bottom of Trench 8, extended from N20 to N24 and from W49 to W63 on the control grid (**Figure II-6**). The feature was more or less oval, and extended some 3.2 meters north/south by 2.8 meters east/west. A one-meter wide section was excavated out of the center of the feature, corresponding to the orientation of Trench 8, which was subsequently widened to expose the complete feature outline prior to sectioning. The original section was 50 cm wide and was expanded to a full meter after a hearth (Feature 2A) was encountered at the interface of Levels 2 and 3. Level 1 was dish-shaped and consisted of a dark brown lens of silty loam. This level was underlain by a somewhat lighter-colored brown lens of sandy loam. Both of these levels contained substantial amounts of fire-cracked rock and debitage, and Level 2 yielded a large ferruginous quartzite biface tip. Immediately below Level 2 was a concentration of charcoal 5 to 15 cm deep and extending 1.4 meters north/south by 60 cm east/west in the center of the feature. This charcoal concentration was designated as a sub-feature (Feature 2A) and has been interpreted as the remains of an in-situ hearth. Underlying Level 2 and Feature 2A was a third level of light brown mottled sand extending down to a maximum depth of 80 cm. Swirl patterns were noted in the sediments comprising Level 3, which tends to indicate that these sediments were washed into the pit and that the pit was probably left open and reused numerous times. Level 3 also contained large quantities of fire-cracked rock and debitage. Feature 2A, the probable hearth, contained large chunks of charcoal, but very few artifacts. Artifacts recovered from Feature 2A consisted of seven fragments of heavily-burned fire-cracked rock and a single quartzite flake.

A carbon sample taken from Feature 2A, the in-situ hearth, was submitted for analysis and yielded a calibrated date ranging from ca. 1660 A.D. to ca. 1960 A.D. This date is problematical and brings into question the cultural affiliation of the feature. A date in the range of ca. 2000 B.C. to ca. 1000 B.C. had been expected based on the configuration of the feature, the artifactual contents, and the range of diagnostic artifacts recovered from the site as a whole. The modern date obtained poses several problems, which can only be enumerated but not solved without further research. The cultural origin of the feature is certain. The pit has a regular outline, clear internal stratigraphy and contained a large quantity of prehistoric artifacts, with no evidence of



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FIGURE II-5 |
PLAN VIEW & WEST WALL PROFILE OF
FEATURES 2 & 2A

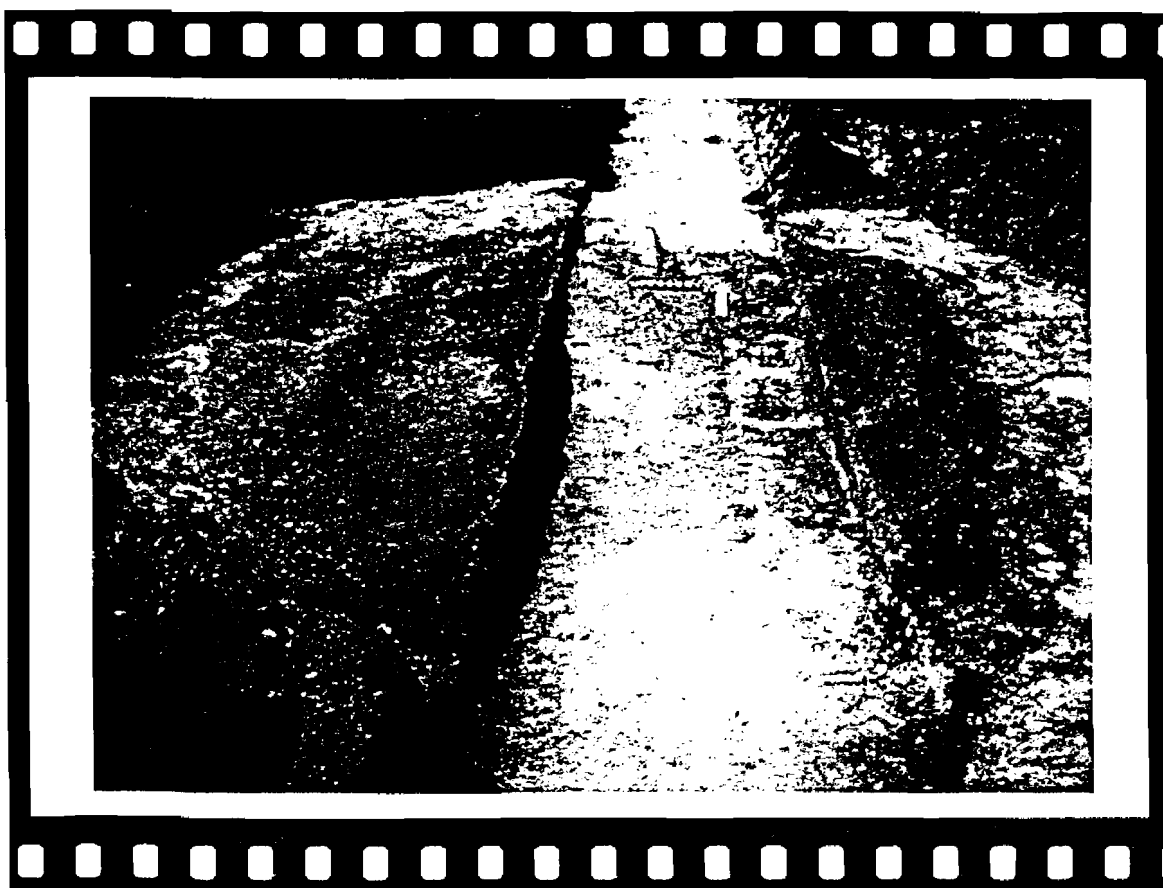
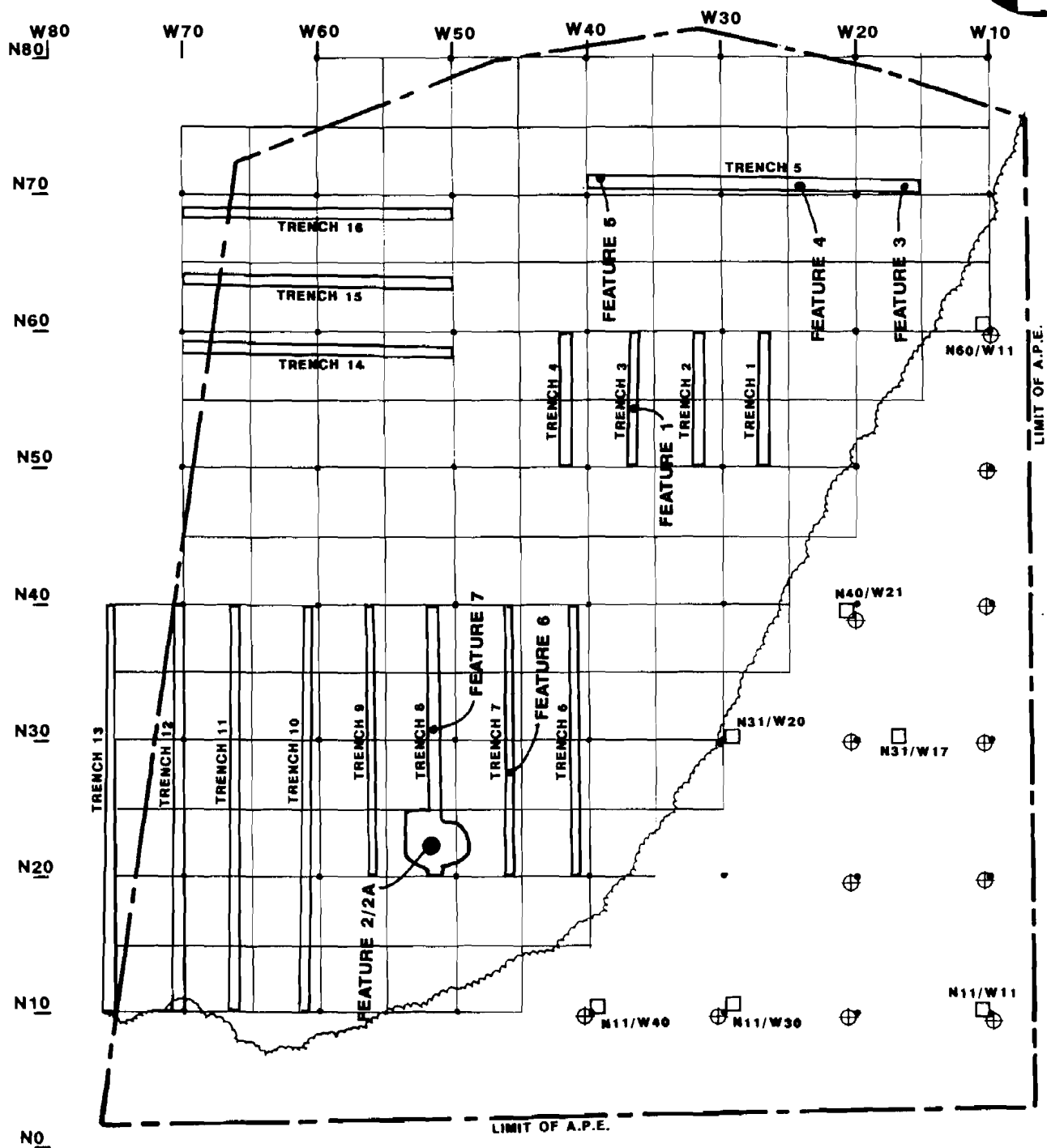
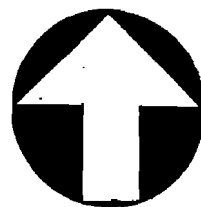


PLATE II-14 FEATURE 2 - PLAN VIEW



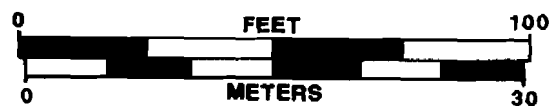
10X10 M SURFACE COLLECTION
BLOCK & 5X5 M QUADRANTS

--- AREA OF POTENTIAL
EFFECT BOUNDARY
~ WOODS EDGE

□ 1M X 1M TEST UNITS

⊕ SHOVEL TEST PITS

=== BACKHOE TRENCH



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CHURCH ROAD PHASE I & II

FIGURE II-6

SITE MAP SHOWING SUBSURFACE TESTING
& FEATURES

natural disturbance, which would indicate that the feature was anything other than man-made. There are at least three possible explanations for the modern date, which are presented below in no particular order of precedence or preference.

- 1) The carbon sample was somehow contaminated and the date obtained for the feature is therefore incorrect. It should be stated that the hearth from which the carbon sample was obtained was sealed under two intact levels of pit fill, and there was absolutely no indication of disturbance or intrusion.
- 2) The feature is of historic derivation and the date obtained for the feature is correct. The problem with this interpretation is that the configuration of this particular feature has no analogs in the literature, or in the lengthy and extensive experience of the investigators. Also, the artifactual content of the feature is clear-cut and indicates a native American cultural affiliation.
- 3) The feature dates to the Historic Period but is in fact of Native American origin, and therefore represents a Contact Period manifestation. The problem with this interpretation is that the form of the feature and the artifacts contained therein all tend to indicate an early Woodland I period occupation. One qualifier that needs to be stated, is that no substantial Contact Period occupations have been documented in the State of Delaware, which means that once again we have no comparable sites. This could be a first.

Artifact Description

Lab processing and analysis involved the washing, cataloguing, and inventorying of recovered artifactual materials as well as the processing of flotation samples from features and carbon samples for dating. Artifacts were analyzed in terms of type, material, function, and cultural affiliations when possible (**Plates II-15 through II-19**). Debitage was sorted by material and type and analyzed in terms of the stages of stone tool manufacture and/or maintenance activities represented. Tools were examined under low power magnification (10X), to see if diagnostic wear patterns were present. Artifact categories were plotted out on base maps, in order to see if distributions were patterned and in order to identify potential activities areas as well as correlations between surface and subsurface deposits. Lab analysis also involved the examination of profiles recorded in shovel test pits and test units. Stratigraphic data were used in combination with artifactual data to differentiate between contexts that evidenced disturbed, re-deposited and in-situ deposits.

Non-Site, Phase I Artifact Description

This section includes information concerning the artifacts recovered during the reconnaissance survey of the designated segments. The artifactual data gathered during the systematic surface walkovers and the excavation of shovel test pits is presented in an artifact inventory (**Appendix C**) and is summarized below in **Table II-1**.

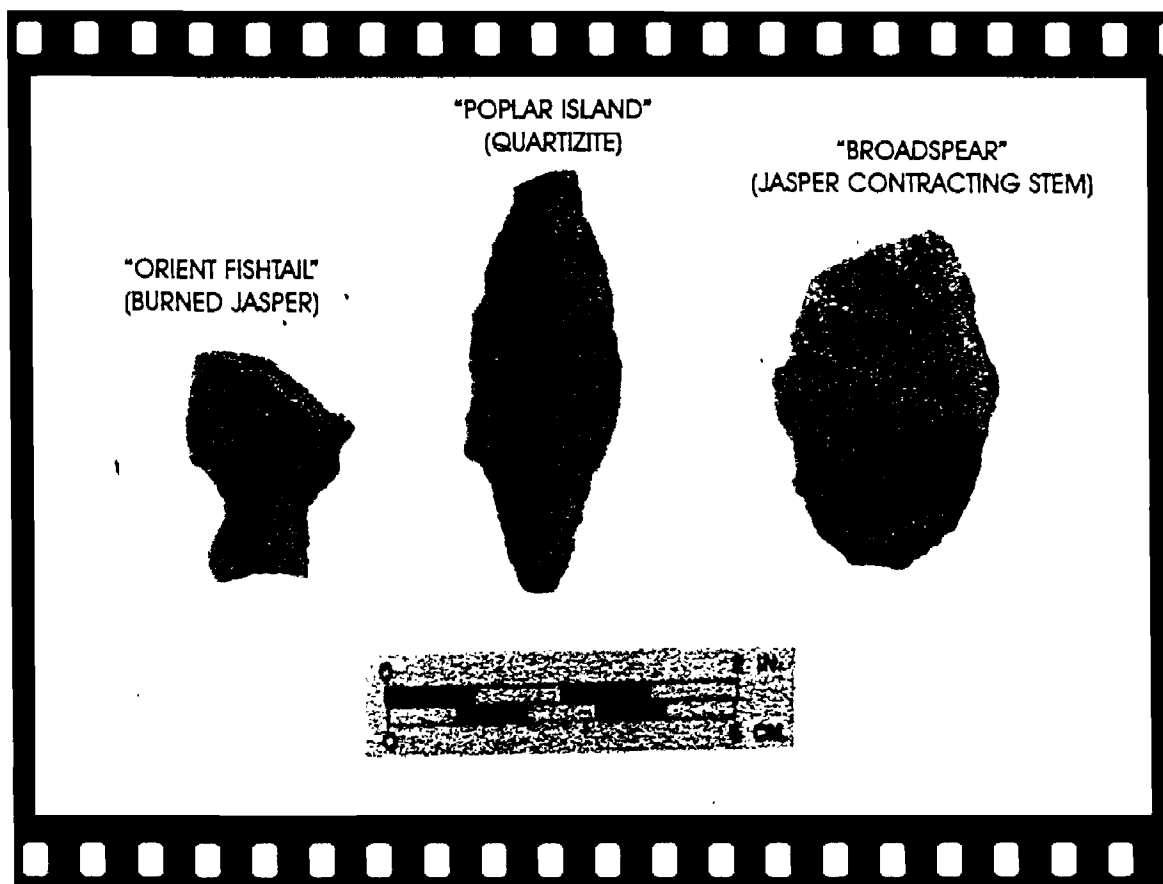


PLATE II-15 DIAGNOSTIC BIFACES

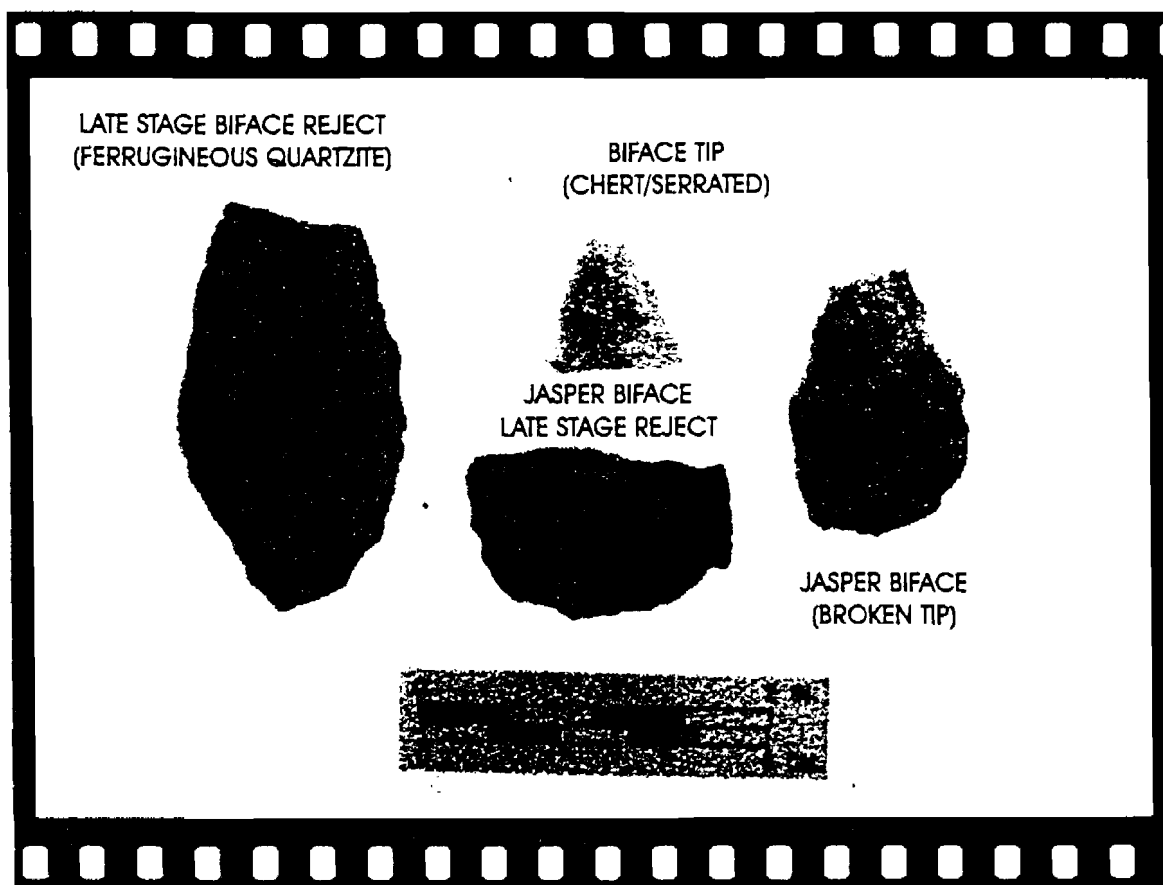


PLATE II-16 NON-DIAGNOSTIC BIFACES

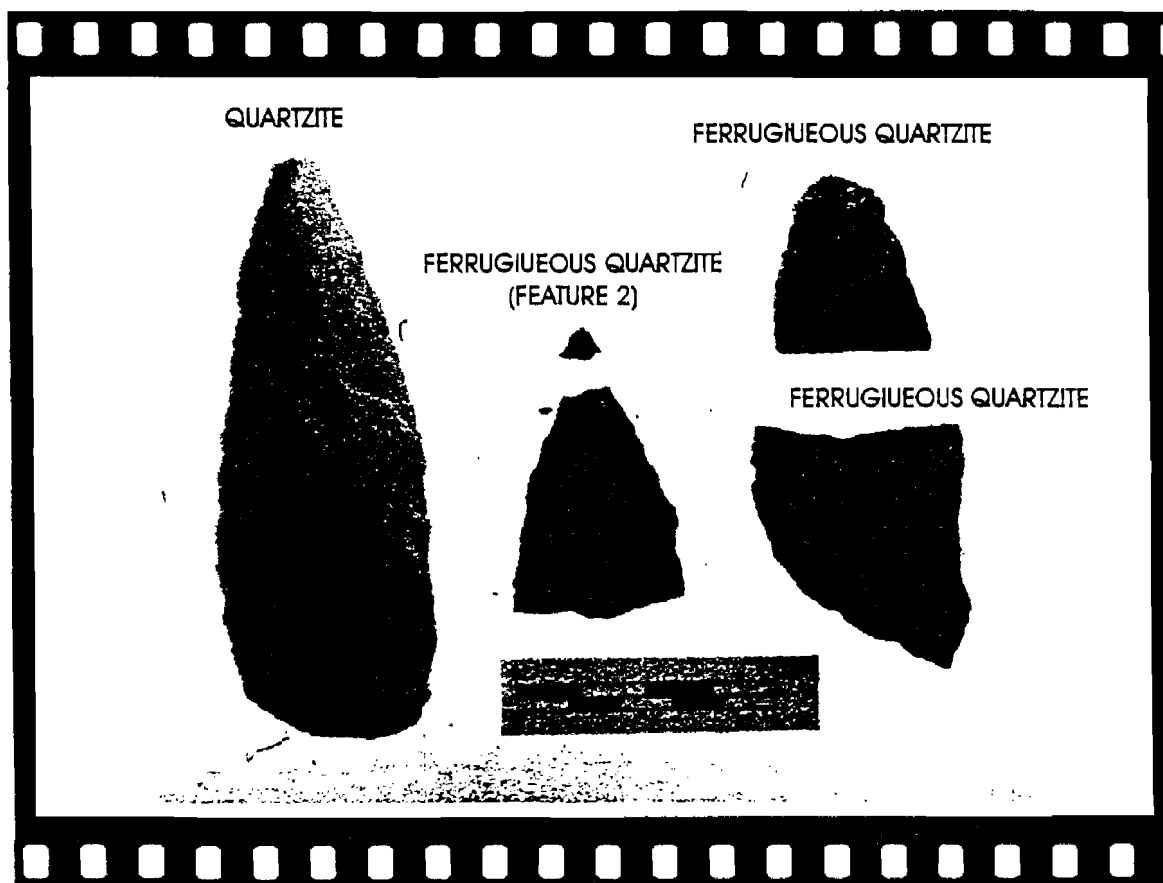


PLATE II-17 PREFORMS

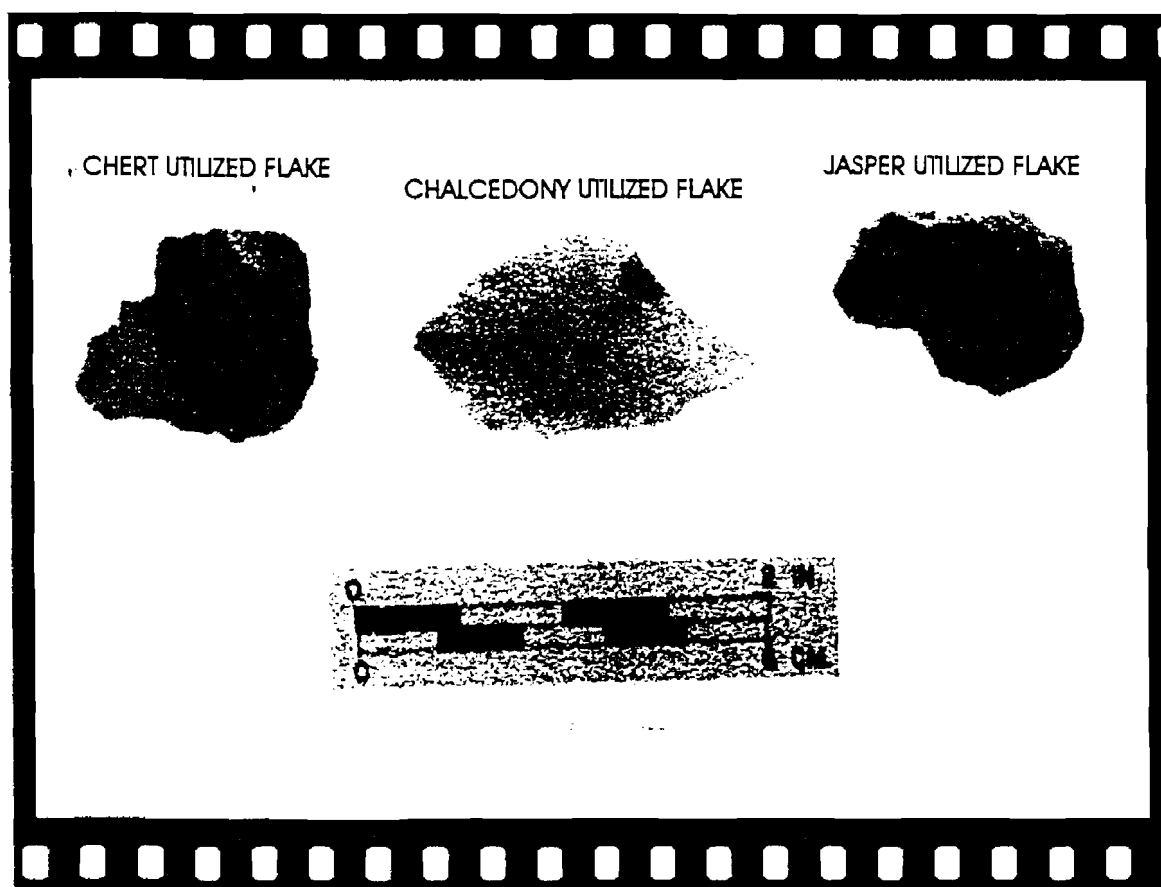
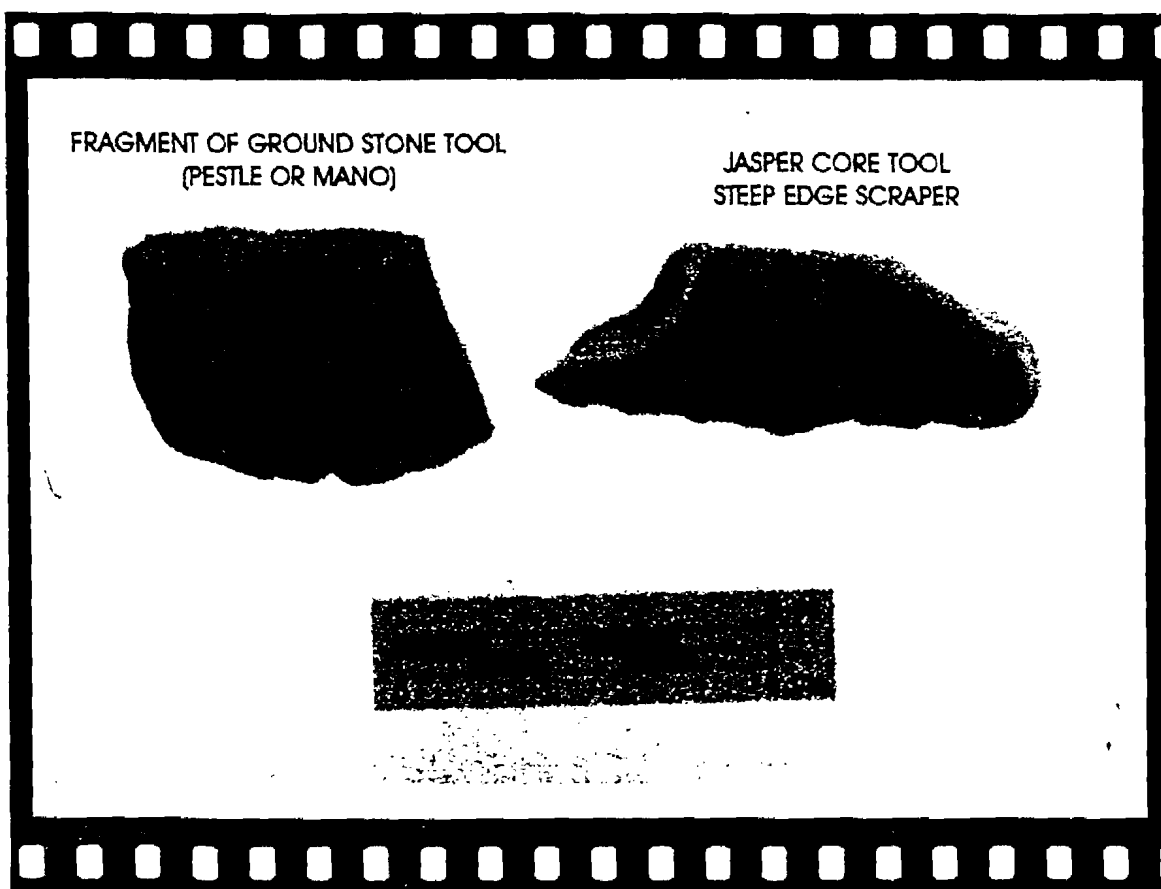


PLATE II-18 UNIFACIAL TOOLS



FRAGMENT OF GROUND STONE TOOL
(PESTLE OR MANO)

JASPER CORE TOOL
STEEP EDGE SCRAPER

PLATE II-19 MISCELLANEOUS ARTIFACTS

TABLE II-1: Reconnaissance Survey Artifact Distribution

Segment	% Visibility	Test Units	Diagnostic Artifacts
A	0	# 1-9	Roadside Litter, Barbed Wire, Cut Nails, Bottle & Window Glass, Brick, Metal
B	0	# 10-17	Roadside Litter, Wire Nails, Bottle Glass & Cap, 1964 Nickel, Metal
C	40-60%	None	Roadside Litter, Brick, Whiteware
D	Disturbed	None	No Surface Artifacts
E	40—60%	None	No Surface Artifacts
F	Disturbed	None	No Surface Artifacts
G	Grassy	#77-80	Bottle Glass & Cap, Wire Nail
H	Disturbed	#18-22	Roadside Litter, Wire Nail
I	Grassy	# 34-76	Wire Nails, Metal Bolt, Bottle Glass, Brick, Plastic Comb, Shotgun Shell
J	Grassy	# 23-33	Bottle Glass, Toilet Porcelain, Brick, Metal Furniture Pull, Stone Fragment
K	60-100%	None	Brick, Redware, Ceramic Tile, Bottle Glass, Lithic Flakes & Chunks, Scraper, Projectile Point, Fire-cracked Rock,
L	40-60%	# 91-127	Brick, Redware, Stone Fragment, Lithic Flakes, Hammerstone, Fire-cracked Rock, Lithic Shatter Flake, Window Glass, Brick
		T.U. # 1	Stone Fragment (3), Lithic Flake
		T.U. # 2	Lithic Retouch Flake

Prehistoric artifacts were limited to lithic material, namely fire-cracked rock, shatter, flakes, and a limited number of flaked tools. The category of lithic material includes items that may have been flaked by man, in contrast to lithic material broken by the plow or by the inadvertent application of heat and/or freezing weather. Items recorded in the inventory as stone fragments or chunks are in the latter category, as are a few labeled as lithic shatter. These most often show portions of cobble or pebble surface cortex and/or exhibit flaked surfaces with varying degrees of polish or weathering, indicating intervals of time between each flaking incident and suggesting that many may have been due to natural factors rather than patterned behavior by human flint knappers.

The former category, including approximately two dozen items, consists primarily of primary and secondary discard flakes, with two items exhibiting purposeful flint knapping and functional forms. Lithic discard flakes were primarily manufactured from jasper, with several of quartz, probably obtained from locally-derived cobbles or pebbles. Some, however, were of exotic jaspers, cherts or flints, material obtained from non-local sources. A few of the flakes showed edge retouching, but none in a patterned form.

Fire-cracked rock was present within the cultivated field designated Segment K, as well as in several shovel test pits in the general area. Fire-cracked rock (FCR) from the Church Road project area consisted of material ranging from quartzite, to sandstone, to gneiss. All showed extensive cobble cortex, indicating that they were derived from local sources.

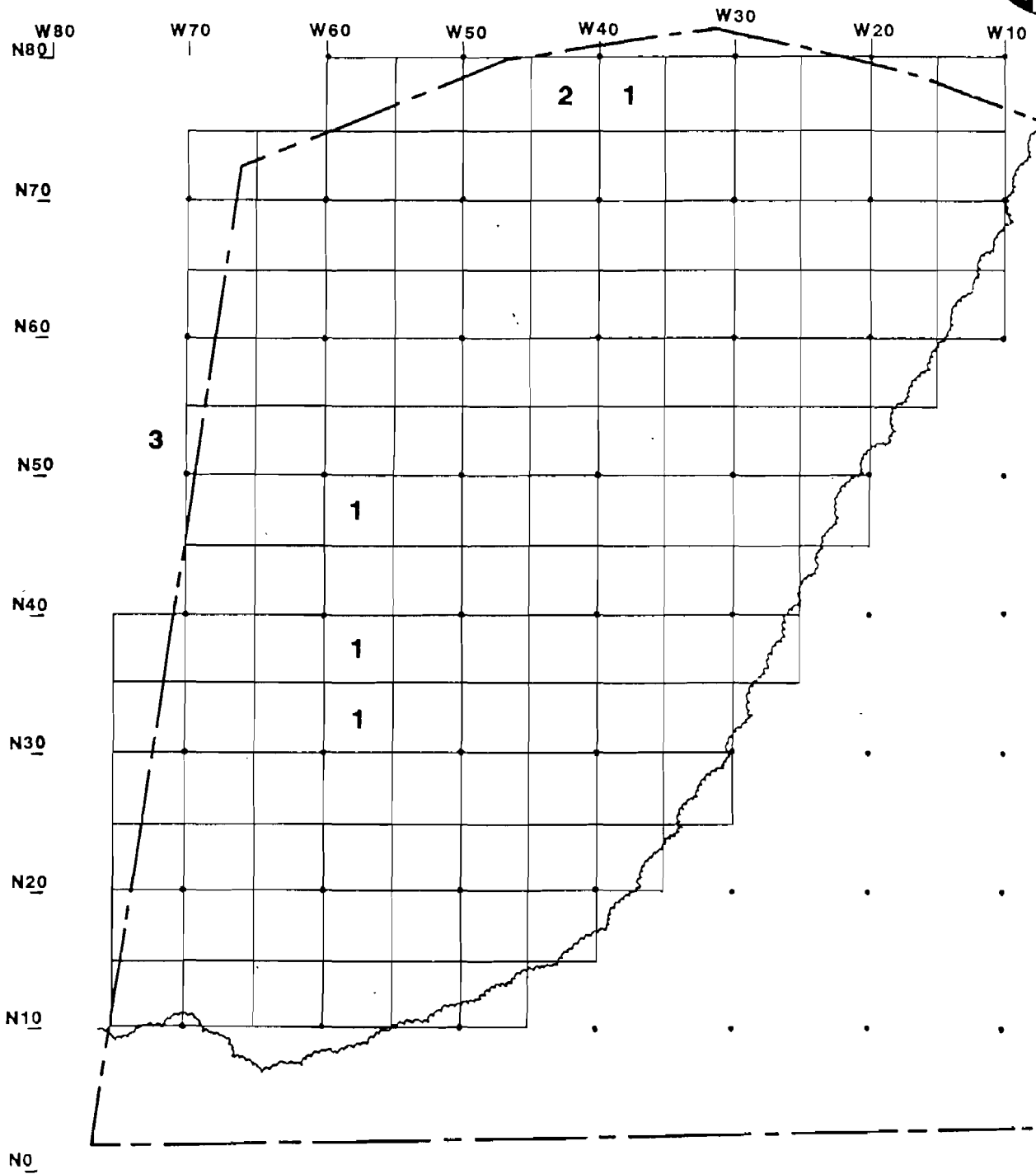
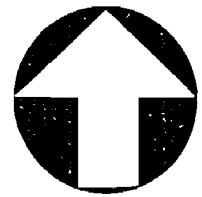
A single, fragmentary, bifacially-flaked scraper was found within Segment K. This rounded base tool was manufactured from a brown jasper of relatively fine quality which had been subjected to extreme heat, causing it to turn partially red and to exhibit heat fracture scars, as so often is the case with quarried jasper of this sort. The other finished tool was a heat-fragmented projectile point of the type usually associated with the Orient Fishtail type, initially identified in New York. The point had a slightly expanding stem, corner notches, and was manufactured from what had been a deep brown quarried jasper preform.

Wynnefield Site (7NC-D-219) Artifact Description

The Phase I and II surveys of the Wynnefield Site resulted in the recovery of a total of 490 artifacts, including 102 artifacts of historic derivation and 388 artifacts of prehistoric derivation. Historic artifacts were recovered on the surface of the site and from the plow zone levels of shovel test pits and test units. None of these items came from undisturbed contexts such as features.

The assemblage of historic artifacts as a whole consists of brick fragments and window glass as well as a small sample of ceramics, bottle glass, and a single fragment of kaolin pipe stem. A little more than half of the material consists of architectural debris, including bricks (45), window glass (11), and a single (1) sail. The investigations also yielded a small assemblage of bottle glass which included early nineteenth century wine bottle fragments and late nineteenth century medicinal bottles. Diagnostic ceramics were sparse and included a single sherd of white salt-glazed stoneware, a single sherd of pearlware, 13 sherds of Whiteware, and three sherds of gray salt-glazed stoneware. The surface distributions of architectural materials were somewhat patterned. Architectural materials were concentrated at the north end of the APE and extended northward well beyond the collection grid (**Figure II-7**).

By contrast, ceramics and bottle glass were widely scattered across the APE (**Figure II-8**) and sparse, with no meaningful concentration present. Based on cartographic data and information from a local collector, these historic materials are associated with a nineteenth century historic site which was occupied by the Bryan family during the first half of the century, and sold to George Townsend around A.D. 1848. It is not known if the site of the homestead was actually occupied by George Townsend, rented out to a tenant, or demolished. The presence of whiteware in the assemblage tends to indicate that the site was occupied well into the last half of the nineteenth century. A pedestrian reconnaissance of the plowed field to the north of the APE indicated a large and heavy concentration of architectural and domestic debris, located 150 to 200 ft due north of the APE. No artifacts were collected, although observations were made concerning the composition of the assemblage. The mix was similar to that noted in the assemblage of historic materials recovered in the APE, although substantially larger quantities of pearlware and early bottle glass were noted. Since a mid-nineteenth century historic map showed the Bryan homestead as being located close to the railroad tracks at the north end of the field, those portions of the field were also examined. Evidence of field scatter was present right up to the edge of the field, but no additional concentrations of artifacts were noted. It is likely that the historic map was not drawn to scale as was often the case, and the collector who has been coming to the site for several years confirmed that the centrally-located concentration of artifacts was in fact the only concentration of historic materials in the field. The historic materials noted throughout the APE most likely represent field scatter associated with the historic component of the Wynnefield Site, the core of which is clearly located outside of the APE.



10X10 M SURFACE COLLECTION
BLOCK & 5X5 M QUADRANTS

--- AREA OF POTENTIAL
EFFECT BOUNDARY

~~~~~ WOODS EDGE



MAI PROJECT: D-74/81  
CHURCH ROAD PHASE I & II

FIGURE II-8  
THE WYNNEFIELD SITE - SURFACE DISTRIBUTION OF  
HISTORIC CERAMICS/GLASS

A total of 388 prehistoric items were recovered from the prehistoric component of the Wynnefield Site. Of these items, 196 were debitage (51%), 173 were fire-cracked rock (44%), and 19 were tools (5%) (**Table II-2**).

**TABLE II-2: Phase I and II Prehistoric Artifacts**

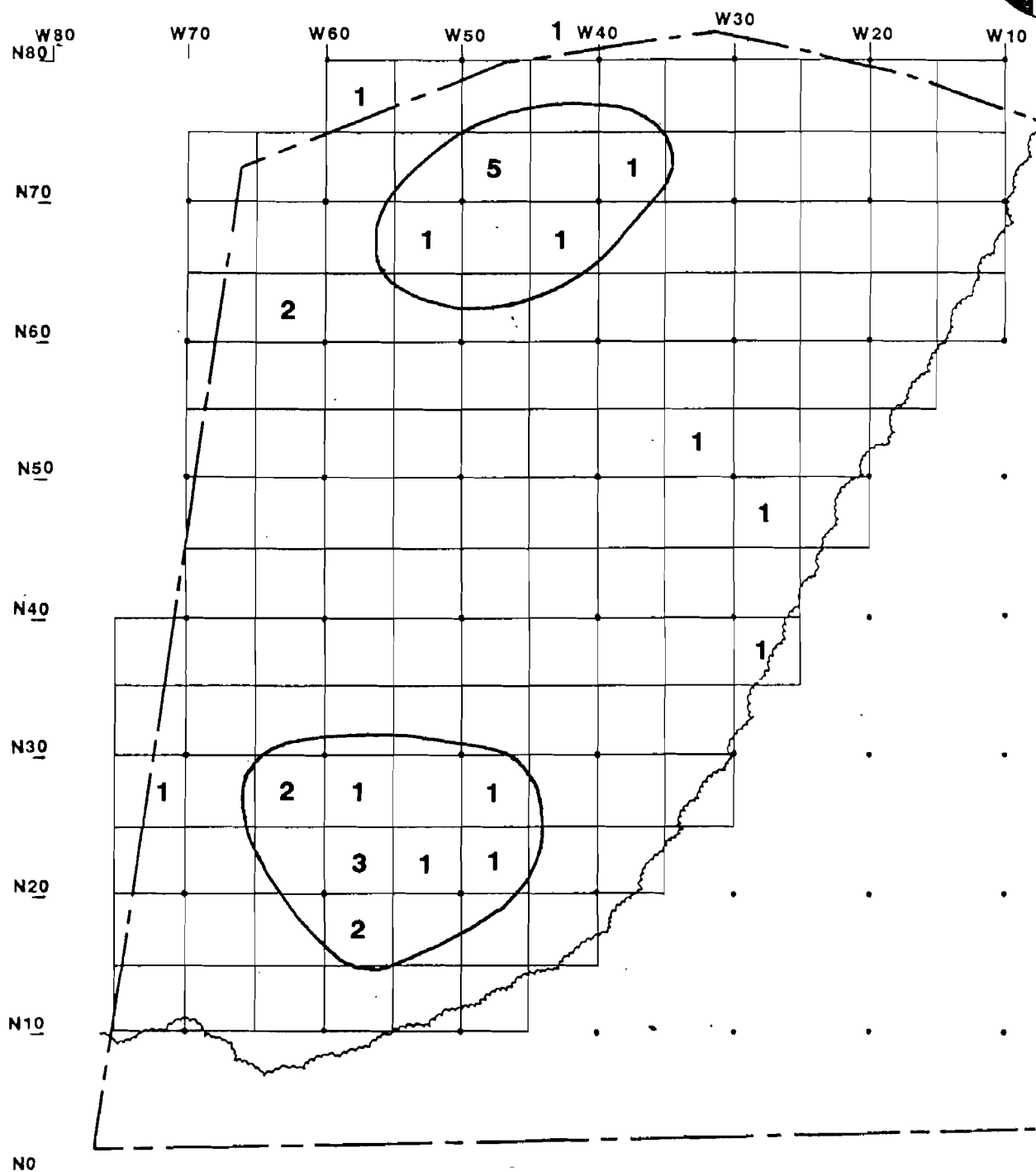
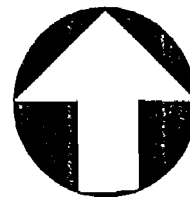
|           | Phase I  |     |       | Phase II  |     |       | Totals     |     |       |
|-----------|----------|-----|-------|-----------|-----|-------|------------|-----|-------|
|           | Debitage | FCR | Tools | Debitage  | FCR | Tools | Debitage   | FCR | Tools |
| Surface   | 6        | 5   | 2     | 37        | 38  | 13    | 43         | 43  | 15    |
| STP/TUs   | 25       | 1   | 2     | 53        | 16  | -     | 78         | 17  | 2     |
| Features  | -        | -   | -     | 75        | 113 | 2     | 75         | 113 | 2     |
| Subtotals | 31       | 6   | 4     | 165       | 167 | 15    | 196        | 173 | 19    |
| Totals    | 41 (10%) |     |       | 347 (90%) |     |       | 388 (100%) |     |       |

The assemblage of debitage was dominated by jasper (34%), followed by quartzite (30%), chert (20%) and other materials (16%), which consisted of quartz and a single flake of chalcedony. All stages of stone tool manufacture and maintenance were represented as indicated by the recovery of primary reduction, secondary thinning, and tertiary retouch flakes, as well as the recovery of preforms and early and late stage biface rejects. The percentages of primary, secondary, and tertiary materials varied between material types and may indicate different patterns of utilization and procurement (**Table II-3**).

**TABLE II-3: Debitage by Material & Type**

|           | Jasper | Chert | Quartzite | Quartz | Combined      |
|-----------|--------|-------|-----------|--------|---------------|
| Primary   | 62%    | 62%   | 46%       | 81%    | 118<br>(60%)  |
| Secondary | 26%    | 27%   | 39%       | 16%    | 56<br>(28%)   |
| Tertiary  | 12%    | 11%   | 15%       | 3%     | 22<br>(12%)   |
| Totals    | 100%   | 100%  | 100%      | 100%   | 196<br>(100%) |

Jasper and chert had an identical profile in terms of the relative quantities of primary, secondary, and tertiary material associated with both. Both of these materials were derived from cobble beds that are present in the stream adjacent to the site, and it is apparent that the two were procured and worked in the same manner. The profile for the quartzite debitage was different and is probably a reflection of the fact that most of the quartzite was recovered from a feature containing a broken preform of ferruginous quartzite, and a large quantity of ferruginous quartzite flakes which were probably derived from the same core. The mix of primary, secondary, and tertiary materials made out of quartz was also anomalous. The anomaly is undoubtedly the result of the working characteristics of the quartz itself, which is difficult to work and often results in an over-representation of primary reduction debris, much of it in the form of shatter. The surface distribution of debitage was sparse, although some indication of patterning was noted. Two concentrations of debitage were noted on the surface of the site (**Figure II-9**), including one in the north-central and one in the south-central portion of the collection grid.



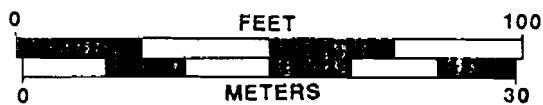
10X10 M SURFACE COLLECTION  
BLOCK & 5X5 M QUADRANTS



AREA OF POTENTIAL  
EFFECT BOUNDARY



WOODS EDGE



MAI PROJECT: D-74/81  
CHURCH ROAD PHASE I & II

FIGURE II-9  
THE WYNNEFIELD SITE - SURFACE DISTRIBUTION OF  
DEBITAGE

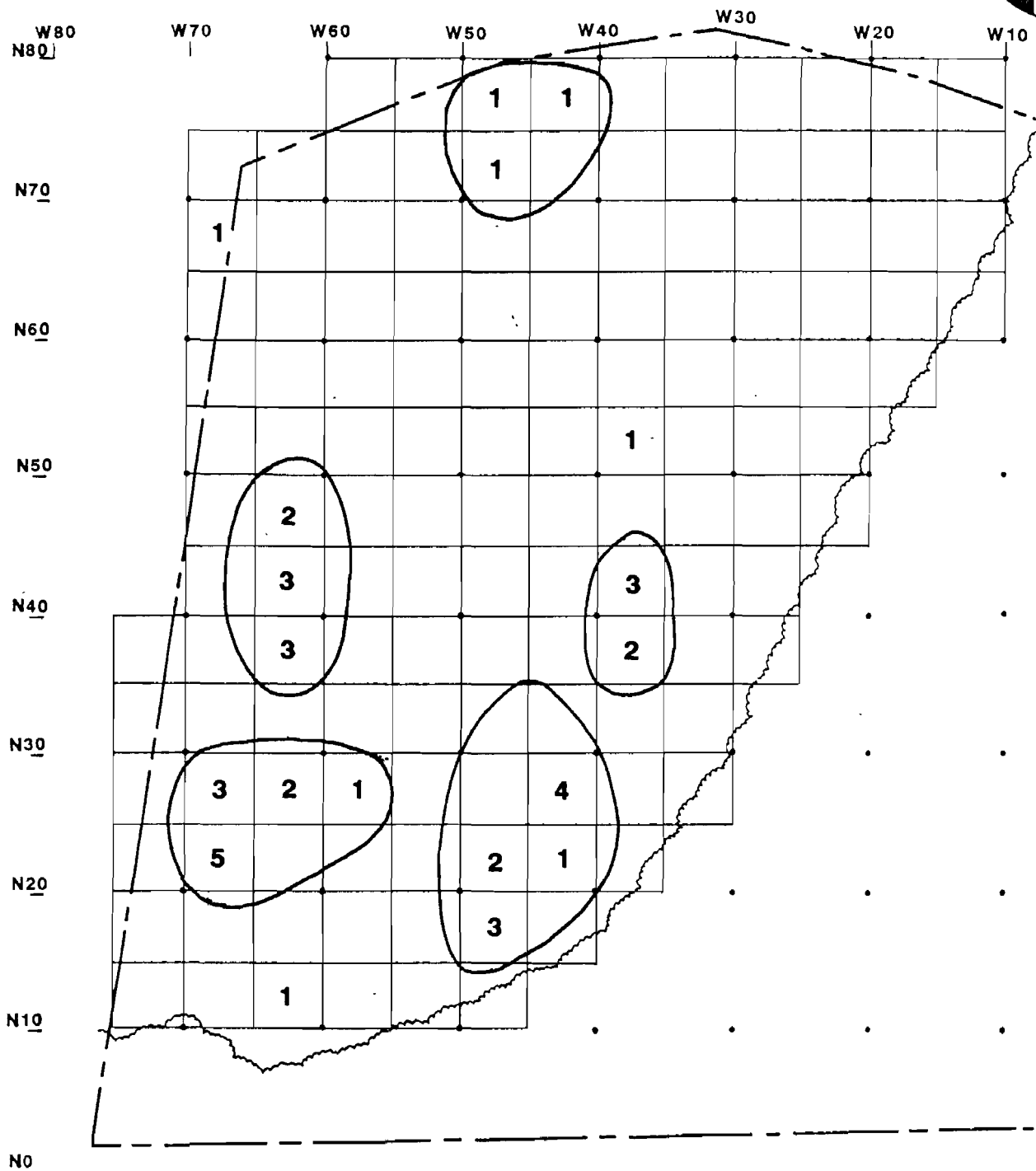
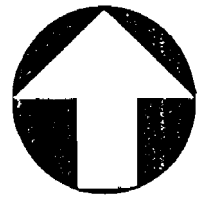
The assemblage of fire-cracked rock was largely comprised of broken quartzite cobbles and fragmented slabs of ferruginous quartzite. The FCR was primarily recovered in feature contexts, although some was also recovered on the surface of the site. The distribution of FCR (**Figure II-10**) was patterned, with four separate concentrations in the south half of the collection grid and one small concentration in the north-central portion of the collection grid.

A total of 19 tools were recovered in the course of the Phase I and II surveys conducted at the Wynnefield Site, including 4 tools recovered in subsurface contexts and 15 tools on the surface of the site (**Figure II-11**). These tools included 13 bifaces, 3 unifaces, 2 hammerstones, and a single fragment of a ground stone tool. The hammerstones consisted of medium-sized quartzite cobbles with bi-polar attrition. Unifacial tools (**Plate II-18**) consisted of chert, chalcedony, and jasper secondary flakes which were utilized as is without edge preparation or retouch. Two of the utilized flakes had nibbled edges with step-fractures running parallel to the working edge. This type of attrition is generally attributed to tools used as saws or scrapers. The chert flake exhibited a somewhat more patterned type of wear consisting of striations running perpendicular to the edge of the tool. The fragment of ground stone tool consisted of a small plan of quartzite with evidence of polish and pecking (**Plate II-19**). The fragment is made of quartzite and appears to have broken off from a pestle or a mano of some sort.

Bifaces were categorized into four types. The first was a single jasper core tool (**Plate II-19**) which probably represents an early stage biface reject. Microscopic examination of the bifacially worked edges failed to indicate the presence of attrition, or any evidence indicating actual use as a tool. The next category of bifaces consists of five specimens which are not diagnostic (**Plate II-16**) and which tend to be fragmentary. This category includes two jasper specimens, two chert specimens, and a single quartzite specimen. One is extremely fragmentary and represents a small section of the lateral margin of a finished point, and one is a chert tip with a serrated edge. The tip exhibits a transverse fracture with no lipping, which is typical of breakage that occurs as a result of pressure, as opposed to impact. Two of the specimens represent late stage biface rejects that were never finished. The final specimen is a small, ovoid jasper biface with a broken tip exhibiting just about every kind of edge attrition and wear found on stone tools including broad shallow flakes, crushing, step flakes, striations, and polish. The biface was probably hafted and appears to have served a multiplicity of functions, which would make it the equivalent of your basic Swiss army knife. The next category of bifaces consisted of four preforms (**Plate II-17**). All of them were made out of quartzite. The final category consists of three specimens representing diagnostic bifaces (**Plate II-15**). The first of these is a badly-damaged red jasper biface base that has been severely heat-spalled. This jasper biface is likely to have been part of an Orient Fishtail point dating to the early part of the Woodland I period ca. 3000 B.C. to ca. 1000 B.C.

Of the 388 prehistoric artifacts comprising the assemblage recovered from the Wynnefield Site, 170 came from surface and plow zone contexts, while the remaining 218 artifacts were recovered in undisturbed and or sealed contexts. This includes 190 artifacts recovered in unplowed (A) horizons encountered in the course of the excavation of four out of eleven one-meter units excavated at the site.

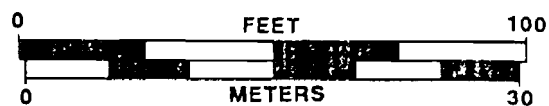
Artifacts recovered in Segments A through K represent field scatter and/or roadside trash deposits, which cannot be associated with specific historic sites located near Church Road north of the railroad tracks; the materials consist almost entirely of modern (post-ca. A.D. 1950) roadside litter, including large quantities of beer bottle glass and the occasional brick fragment and fragments of whiteware/iron stone/vitreous china. These materials were noted in all the segments



10X10 M SURFACE COLLECTION  
BLOCK & 5X5 M QUADRANTS

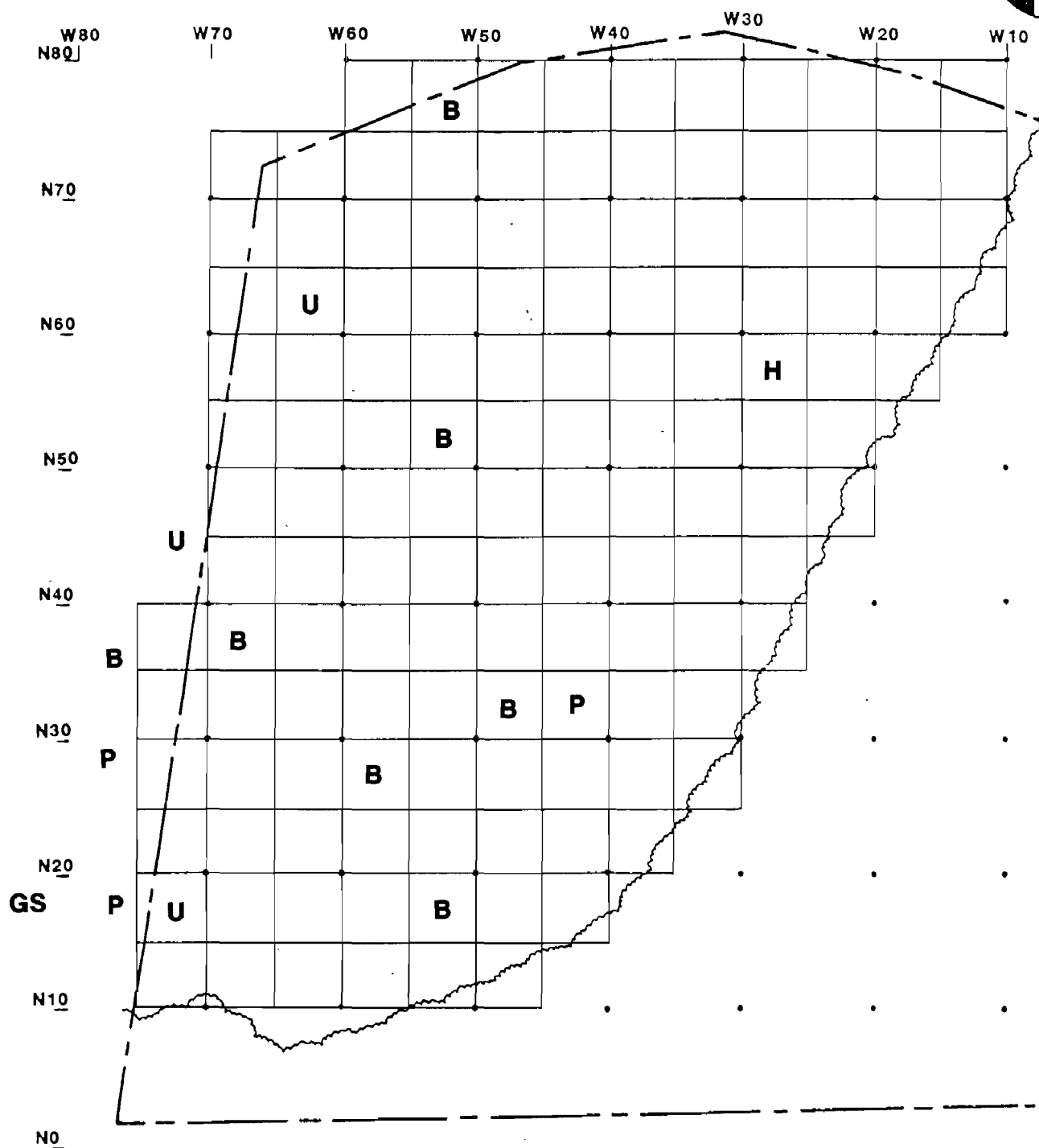
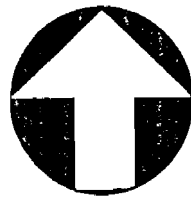
--- AREA OF POTENTIAL  
EFFECT BOUNDARY

~~~~~ WOODS EDGE



MAI PROJECT: D-74/81
CHURCH ROAD PHASE I & II

FIGURE II-10
THE WYNNEFIELD SITE - SURFACE DISTRIBUTION OF
FIRE CRACKED ROCK



10X10 M SURFACE COLLECTION
BLOCK & 5X5 M QUADRANTS

--- AREA OF POTENTIAL
EFFECT BOUNDARY

~~~~~ WOODS EDGE

**B** BIFACE      **H** HAMMERSTONE  
**P** PREFORM    **GS** GROUND STONE  
**U** UNIFACE



MAI PROJECT: D-74/81  
CHURCH ROAD PHASE I & II

FIGURE II-11  
THE WYNNEFIELD SITE - SURFACE DISTRIBUTION OF  
PREHISTORIC TOOLS

subjected to surface survey, owing to the presence of viable exposed land surfaces, and in all those segments tested through the excavation of systematically-placed shovel test pits. All of the materials recovered in subsurface contexts came from fill levels and from (A) horizons representing plow zones. South of the railroad tracks, some of the materials noted on the surface, particularly on the east side of Church Road, appear to represent nineteenth century field scatter. The field scatter noted in the narrow APE along Church Road was generally sparse and was, again, intermixed with modern bottle glass, evidencing twentieth century trash disposal customs commonly noted along roads.

The artifacts recovered in Segment L, which extends east of Church Road, are all associated with a multi-component archaeological site that extends over the entire APE for the proposed storm water management pond as well as to the north and west of the APE. A total of 70 items were recovered in the course of a surface collection and the excavation of shovel test pits and test units. The total included 41 artifacts of prehistoric derivation and 29 historic items. The prehistoric material extended across most of the APE except to the east and south of the springhead, while the historic materials were concentrated towards the north end of the APE. The historic assemblage consisted largely of brick fragments and a few ceramic sherds dating to the nineteenth century. Ceramics included redware, American blue and gray salt-glazed stoneware, pearlware, and whiteware. The prehistoric assemblage consisted of 31 fragments of debitage, 6 fire-cracked rocks, and 4 tools. The tool category consisted of three non-diagnostic items including a biface fragment and two utilized flakes, as well as one diagnostic basal fragment of a burned jasper biface similar to an Orient Fishtail dating to between ca. 2000 B.C. and ca. 1000B.C., or the early part of the Woodland I period. The site was subsequently designated as 7NC-D-219 and named the Wynnefield Site.

### **Data Analysis**

Based on the intensiveness of the above-described field investigations, and on the relative paucity and limited functions of artifacts of a prehistoric nature recovered from the surface collection procedure and excavations undertaken, it appears that the prehistoric activity documented for Segment L was brief, and by transient groups. Less than a dozen artifacts were recovered, only three of which can be identified as to function and possibly as to cultural period. The evidence found within this portion of the study area (**Plate II-20**) appears to relate to non-settlement activities, perhaps restricted to hunting camps occupied by a limited segment of the total aboriginal population within the overall community. Activities undertaken, in addition to hunting, may have included lithic tool maintenance and, based on a single scraping tool and several possible prehistoric fire-cracked rocks, possibly food preparation. The only chronologically-diagnostic artifact found was an Orient Fishtail projectile point that relates to the Woodland I period of the eastern United States.



**PLATE II-20: Segment L, Multi-Component Site**

Although modern roadside debris was recovered from throughout the study area, potentially significant, intact historic period activities may not have included actual occupation. Although documentation indicates the presence, in an area immediately adjacent to Segment L, of a cultural feature that may have related to the residential land use of the Bryan family, the presence of historic artifacts within the study area itself appears to be attributable to ancillary farmstead activities or associated yard deposition. Their numbers, and delineated distribution, do not seem to be a result only of field scatter.